



The I/O Connector

SEPTEMBER 1986
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The Newsletter of the San Diego Atari Computer Enthusiasts



SAN DIEGO ATARI COMPUTER ENTHUSIASTS

is an independent, non-profit organization and user group with no connection to the ATARI Corporation. Membership fees are currently \$15.00 annually, from January 1 thru December 31 of the current calendar year. Membership includes free access to the computer program library, subscription to the "I/O Connector", and classes when held. Permission to reprint articles in any non-commercial form is permitted with specific authorization, as long as proper credit is given.

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SAN DIEGO ATARI COMPUTER
ENTHUSIASTS

P.O. Box 203076
San Diego, Ca. 92120

BULLETIN BOARD

S.D.A.C.E. BBS
Sysop: Rick DeHaven
(619) 284-3821
24 Hours

SUBMISSIONS TO THE NEWSLETTER

are most welcome, and due by the 15th of the month for publication in the next month's newsletter. Mail double-spaced text or (returnable) disks with text files to the Editor.

BUY/SELL/TRADE

ads are free to members of S.D.A.C.E. members. Ads must be 25 words or less, typewritten copy, please. The Editor will accept ads at the meetings or those mailed in to the above correspondence address. Deadline for ads is the same for articles - 15th of the month.

PRESIDENT'S MESSAGES

Welcome to the latest issue of the I/O Connector. In this column I to get everyone as up to date as possible in the world of news about Atari.

First I need to take this chance to ask all of you interested in direction and future of S.D.A.C.E. to show up at the Thursday, September 4th meeting. On the agenda for this meeting will be a discussion about the direction that S.D.A.C.E. will take.

Second, I need to remind us that the club elections are quickly going to be upon us. Those of you out there that feel that you have something to contribute to the club are urged to do so. With the addition of the ST to the group a whole new crop of 'job' openings appears with lots of room for fresh ideas.

Hurrah for the BBS's! Both of the club's BBS's are now up and running 24 hours a day. After a slow start (inside joke) the SDACE-8 BBS appears well on the way to acceptance as the new 8-bit hang out. The new number for SDACE-8 is (619) 566-3430. SDACE-ST is also up and running at (619) 284-3821. So give them a call for the latest in Atari news on-line.

On to the ST headlines. According to the grapevine Atari had 600 of the new 20mb hard-disk units flown to the states and shipped them all in one week. The rest are being delivered via ship cargo and should be out soon.

In an interview with the Tramiel's the question about emulators brought the good news that an Apple II emulator is "in the works". This would make the ST a very STRONG Contender in the educational field where Apple has an extremely firm hold on that area of the market. Being able to run Apple software that the schools already have for education as well as the new software on the way for the ST would make the ST very tempting indeed. The third party IBM emulator is

hoped to be done in time for this years Christmas list. David Small's Mac Cart is gathered alot of attention at the West Coast Computer Faire. Apple's lawyers were amongst the interested on lookers. If this product hits the market I know I'll want one just to tinker with. With it and the emulator available for the MAC to allow it to run Apple II software we could have quite a bit of fun. Imagine an ST emulating a MAC in turn emulating an Apple II+. I can't wait to try it out.

On the 8-bit side of things, a whole new truck load of things to look forward to. For the hardware hacker or power hungry types ICD introduced the Multi-function Input Output board (MIO). This powerful device is attached to the parallel bus on the XL/XE computers allowing you to attach not only a modem and a printer but it also includes a 256k to 1meg ram disk and a hard disk controller! I understand that Ray Main has ordered one of the interfaces so we all just might get a peek at it shortly (hint). Atari promises to have the 80 column adapter out soon. I've seen it up and working. Its display is extremely good. Its input from the computer is from the joystick. When I saw it they did not have the 40 column screen up and running so can't say what that screen looked like. Software abounds! At last the dry spell appears to be nearing an end. World Karate Championship is being released by Epyx. The future of further software from them depends on the SALES of this title. Star-Raiders II and Planetarium are two new titles from Atari. Conflict in Vietnam is a highly detailed "informative history lesson". The list of new titles just goes on and on! Be sure to check out the latest software offerings.

That about wraps this month up. Please do try to make the September meet as the very existance of S.D.A.C.E. will be discussed.

CALENDAR OF EVENTS

SAN DIEGO ATARI COMPUTER ENTHUSIASTS

First Thursday of the month at 6:30 pm
North Park Recreation Center
Adult Center

SAN DIEGO COMPUTER SOCIETY

Third Saturday of each month
12 noon: swap meet
1:30 pm: meeting
Mesa Collage, Apollo Theatre

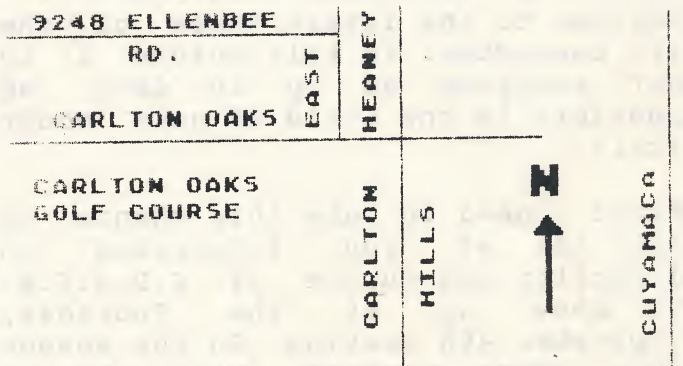
ST SIG

Third Monday of each month at 6:30 pm
North Park Recreation Center
Social Room

ATR 8000 SIG

Fourth Wednesday of the month at 7 pm
See map for more info

ATR MEETING



MEETING: MISSION GORGE
7:00 PM WEDNESDAY AFTER ATARI CLUB
MEETING PHONE 562-6235 FOR INFO

HARDWARE SIG

Each Saturday, times to be announced
4405 Hedionda Ct.
Call 483-4697 for more info

BASIC SIG

Call 223-6378 for more info
Meetings held in the Ocean Beach Area

FOR SALE: 4 BOXES 3.5" DISKETTES - \$15 EACH
DEGAS - \$20
TYPESETTER - \$15
PLANETFALL - \$15
DEADLINE - \$15
HITCHHIKER'S GUIDE - \$15
FINANCIAL COOKBOOK - \$20
ARCHON - \$15
MAC/65 - \$25

ALL 8-BIT EXCEPT DEGAS. NO REASONABLE OFFER TURNED DOWN. CALL 492-1028 AND ASK FOR GUY DAVIS.

ATARI REPAIRS

410/800XL/800/800XL/810/820/850/1050/1200XL

SSL ENTERPRIZES

STEVE LAWRENCE
8924 DUNCAN RD.
SAN DIEGO, CA 92128
(619) 578-4742

SECRETARY'S REPORT

I suppose I should take this opportunity to do some catching up here. As it turns out, I have been unable to attend a few recent club meetings (you were there anyhow, right?), but I can fill you in on recent board meetings, which I have been able to attend.

For the May board meeting, items up for discussion included the fact that no advertisers fees (for The I/O Connector) have been paid or collected for 1986. Discussion of ST and 8-Bit Disk Of The Month and associated libraries was the next topic. Tom Meissner officially appointed in charge of organizing the ST library and Disk Of The Month. Dick Hiatt mentioned the possible re-structuring of the San Diego Computer Society, of which we are a special interest group, may affect us and we should be on top of this. The board authorized \$30 for purchase of a more reliable modem for the club BBS. Qualified BBS sysops being solicited to take over the BBS. The rest you know, as it involved what would happen at the club meeting.

At the June board meeting, several absent board members prevented anything definite from being decided, nevertheless, a few topics were covered. 300 floppy disks are "in stock" in the 8-bit library. Satellite libraries have been discontinued. At each meeting, Frank Miller brings with him sellable copies of the last 8 Disk's Of The Month. A short informal discussion of the apparent unrest amongst the 8-Bit and 16-Bit users and what should be done about it to keep the club intact. Dividing the meetings into two was brought up as a possible solution. Subject tabled for now, till the entire board is present. We are still having trouble collecting for I/O Connector ads and retailers should be reprimanded privately at club meetings. The club's BBS sysop should have available to him at all times, the complete library, in order to rotate files on and off the BBS. The BBS computer is malfunctioning. A good deal on a

130xe has been found and the board has approved it's purchase.

And finally, for the July board meeting, topics of discussion predominantly centered again around the 8-Bit/16-Bit division of club meetings. Without going into the various points and details, the board's ultimate decision was to restructure SDACE consisting of the board as an umbrella group for the SIG's, including the 8-Bit and ST SIG's as they will now be called. The 8-bit meeting will be held in the original "Social Room" on the 3rd Monday of the month and the ST group will take the "Adult Center" on the first Thursday of the month. The club's charter will be completely rewritten to prevent obvious conflicts of interest amongst the two predominant SIG's. A committee headed by David Delgadillo and consisting of Ray Main, Bruce Lawson, Rick De Haven, and Mark Booth will be in charge of re-writing the club's charter over a period of the next few months. NOTE: THE ABOVE CHANGES ARE STILL SOMEWHAT TENTATIVE. MEETINGS WILL REMAIN IN THEIR PRESENT LOCATIONS IN THEIR PRESENT FORMATS UNTIL FURTHER NOTICE. THE ABOVE CHANGES WILL BE PRESENTED TO THE MEMBERSHIP FOR APPROVAL ONCE DETAILS ARE WORKED OUT. Further topics of discussion was the club's BBS's. At the last club meeting, it was announced that the club's BBS would be split into two, one for the 8-bit users and one for the ST users. The new 8-bit BBS modem is malfunctioning and will not connect at 1200 baud. Ray Main intends to donate an ATR 8000, and 4 floppy drives to the 8-bit BBS after he receives his hard disk. (What a nice guy!) It seems that we need a new ST director as Jim Hartman seems to have insufficient time to dedicate himself. The club treasury contains \$1200.00.

ATARI-FEST

On the weekend of August 15-16 ACENET held the first ever ATARI-FEST. The show was held in Glendale, CA at the Glendale Civic Auditorium. I was able to attend the show on the opening day. After the drive up I couldn't wait to get inside to what I had hoped would be a huge gathering of Atari supporters and officials. What I found was a smallish gathering of booths that were manned by several of the larger Atari software and hardware distributors.

Once in the room I quickly walked around to see if anything really exciting was going on yet. Having done that and not seeing anything to stop me in my shoes I proceeded to start to look at the booths more closely.

The 8-bits were represented by a few new items which needed to be explored. Disk Publications, Inc. has created a new disk only magazine called Aladdin for the 8-bit machines. Aladdin consists of 3 dual sided disks full for all sorts of articles, reviews, games, news, demos, and ads. All through the demo I was thinking where had this been years ago? I know that we will see more of these folks. A version for the ST is in the works and may be out as early as next year.

Bill Lurie was showing yet another hard-disk interface for the XL/XE computers. Hooked up to a 800XL was his interface and a 80meg drive! Bill is no stranger when it comes to this type of interface. He also sells the only Atari compatible hard-disk interface for the ATR8000. He hopes to start selling the interface in about a month for about \$100 or so. Bill has promised to drop in on one of our meetings shortly, so don't miss out on this one.

Jet Propulsion Labs Atari Computer Enthusiasts (JPLACE) was showing off a home made video laser disk interface. I was told that the laser disk in use was out of an old Dragon's Lair arcade game and that the laser player in it had no way to be controlled by anything but a computer. By hooking up his 800XL to

the player through the joystick ports he was able to control the player through all its capabilities.

Atari's booth had about 25% of the area for the entire show. In it they were showing new products for both the 8-bits and ST computers. 8-bitters had the new 80 column adapter to view as well as Star Raiders II and Planetarium. I'm told that the 80 column adapter still needed a little more ironing but that it would be out shortly. The text on the display was nothing short of excellent!

Future Systems, Inc. was showing its new 64K Ramcharger for it's Indus disk drive. The Ramcharger's 64K of RAM allows the Indus's Z80 to run C/PM on the Atari for only \$125.

While Hybrid Arts was at the Show with ST goodies, they did have a brochure that caught my eye. The brochure said very plainly at the top 'The XE'. I thought it was a new Atari Advertisement. But after reading it, I see why Hybrid Arts chose the XE to develop its MIDI interfaces. According to the sheet, the XE has better disk access than either the Apple II or the Commodore 64. From 2 to 16 times faster! (I like these little facts!)

For the ST, this was to be its show. Atari had the replacement word processor for 1st Word. Micro Soft Write. Also Micro Soft is said to be working on a version of MS-DOS exclusively for the ST's. The Blitter chip was installed in a preproduction 1040ST and demonstrated with the now familiar flying bird demo. This was a modified bird demo with up to 6 birds on the screen at a time. They had a plain 1040ST on the left running the same program and one could quite easily see the speed difference between the two computers. The exact date and price could not be found, but we are lead to believe that it should be out by years end for around the \$100 mark as an upgrade to current ST's.

Michtron was showing all of it's current products as well as four new products. On the way very soon is 8-ball, an easy to use

billiards game. Pinball factory, similar in concept to Pinball Construction Set on various computers, was also being played by lookers on. I also saw Pro Football Wizard, a football picking program. By entering data about the teams it allows you to predict the winners of football games. And, lastly, Dragons Lair was being played and controlled by a ST! At present all the commands had to be typed in but the finished product will allow for both text and joystick responses.

Supra was also in attendance with its new revision of the 20meg drive. The new unit is about half the size and about 20% faster than the older unit. Selling for the same price as the Atari unit. I think that the Supra will be the hottest seller for the time being.

David Beckmeyer was demonstrating his Unix Operating System. This product will allow multitasking. He had a terminal hooked up to the RS-232 port of a 1040ST and both the ST and the terminal had the ability to run TOS programs. The 1040 could also run a GEM application while the terminal still ran under Unix. No application programs were shown but many ideas for small business needs pop into mind. David, a systems programmer brought it to the fair hoping to get someone to write some applications for his system. I hope he succeeds.

Haba was selling all of their software as well as hardware at good prices. They appear to be getting out of the hard disk arena. The 10meg system was selling for \$499. Initial rumours had it that the Habadrive had a few weaknesses. I've now heard that Supra offers a kit to make the Haba drive 100% compatible with the Supra drives. This is good news for Haba owners.

Abacus Software had its entire line of books and software including the new TextPro and PaintPro available for sale. The PaintPro was the monochrome version only that needed to be sent in for update to the color version?!? TextPro looked very nice. I was shown a club type newsletter done with it and it may well be what we are looking for to help out with the newsletter.

As I commented earlier, Hybrid Arts was showing goodies for the ST line of computers. Well, they had a 16-bit audio digitizer called ADAP SoundRack that could record 20 seconds of CD quality sound digitally. Once in memory, the sound could be altered in several ways. Also part of the package was a real time oscilloscope that allows you to look at the sound waves as you listen. Price of the package a bit steep for home users, \$1995.00.

Hippo also brought its sound digitizer. The software appeared to be the same as that of the Hybrid Arts unit but the hardware was quite different. The unit, this time being an 8-bit unit, could not record CD quality but FM radio quality instead. Best of all it was now within the reach of the home user at a cost of around \$140.00. Still the same ability to alter the sounds, but at a very nice price.

Regent Software had their line of software up and running. Regent Word II the successor to the popular Regent Word, now includes a 30,000 word spelling checker and mail merge functions. Regent Base is the only GEM relational database program available for the ST.

Anchor Automation, the folks that brought 1200 baud to the under \$200 crowd had its new VM520 modem for sale at a very good price. The VM520 is more Hayes compatible than the VolksModem 12 and has a speaker and cable built in.

OSS also had a booth, they showed their entire line of titles for both the 8-bit and ST computers. Bill Wilkinson was on hand to answer all those silly questions that you needed the answers for. Bill seems to always be in great spirits and ready to go that extra yard for his customers.

I've saved the best two items for last. FTL who brought us SunDog and should have Dragon Master in the stores by December surprised quite a few of us by showing 'RPV' which stands for remotely piloted vehicle. This is a vector graphics combat flight simulator with a LOT of attention paid to detail. The game had a very good feel and the

explosions were realistic. The attackee would fall apart in flight! Most interestingly, FTL brought the programmers themselves to demo the new products. I'm sorry that I do not remember any names but these guys were really friendly. They really appeared to be best buddies and worked well as a team.

Antic brought it's titles along as well as some things that should be out soon. I saw Crystal, a 'desktop' in the form of an accessory. With this little goodie you can format, copy, MOVE, and all those other things that you used to have to go back to the desktop to do. All without having to leave the program your in. I type MOVE like it is because the GEM desktop doesn't have MOVE! Now you don't have to remember to go back and delete those files after you organize you disks! It copies the file then deletes the old one! Even better was the new liquid crystal 3-D glasses. Hooked up to the cartridge port and synchronized with the screen, CAD 3D pictures appeared to be floating in space! You could actually move around and see the object as if they were there. Watching yourself fly down a city block in 3D made one feel a bit like Superman. While I was at the Antic booth those friendly guys from the FTL booth dropped by to look at the 3D glasses. They were impressed with the effect to say the least. Gary Yost will be setting up discussions with them for possibly doing a 3D version of Dungeon Master!

Sig Hartmann arrived to a crowd of anxious listeners to let us all know that the new Atari is alive and well with a profit of \$9 million in the last quarter. He also told us that Atari would have a new machine and more upgrades for the ST computers.

Overall, I was very pleased with the whole event. ACENET deserves a big thank you from everyone that attended for making this a reality.

--Rick DeHaven

TIME-SAVER REVIEW (Battery Back-up for your ST's internal clock!)

By Mark E. Booth

One of the things I like most about my 520ST is it's built in Time and Date stamping (ala IBM). To be able to use this feature correctly though, requires that you MANUALLY set the Time and Date each and every time you boot the computer. (I never did!) I considered doing one of the "Homebrew" battery back-up mods but I didn't like the idea of permanently modifying the inside of my ST. Then, I considered the Logichron Clock Card but I didn't like the idea of taking up my cartridge port. So I decided to wait! THE WAIT IS OVER! The TIME-SAVER Battery Back-up from UNALAB is just what the computer Doctor ordered!

The TIME-SAVER is a small (approx. 4" X 2") circuit board that goes INSIDE your ST and provides a constant source of power for the ST's internal keyboard clock. The circuit board comes with a battery holder containing two AA nicad batteries and disk with a program called TIMESAVE.PRG (I will explain this later).

Installation is simple! You just simply remove your ST's cover, unplug the keyboard connector from the mother board, carefully remove the 40 pin IC located on the backside of the keyboard, plug the TIME-SAVER board into the 40 pin socket, plug the 40 pin IC (that you just removed) into the TIME-SAVER board, plug the keyboard connector back into the the mother board, attach the nicad battery pack to the metal shielding inside your ST with the double stick tape provided, plug the TIME-SAVER board's battery cable onto the battery pack, put the cover back on your ST and your done! NO TRACE CUTS, NO JUMPER WIRES TO SOLDER! Total installation time is about 15 minutes.

The initial setting of the correct Time and Date is done using the CONTROL.ACC (the LATEST version is provided on the disk). The disk also contains a program called TIMESAVE.PRG. This program must be copied into an AUTO folder on each and every disk that you intend to boot your computer with. When run, the TIMESAVE.PRG takes the Time/Date from the ST's keyboard clock and installs it into its proper location in RAM. I discovered that the different desk accessories that I had got the Time/Date from DIFFERENT locations! When booted, the CONTROL.ACC gets the Time/Date from the RAM location. Several of the Clock and Watch Accessories get the Time/Date from the keyboard clock! One desk accessory called WATCH.ACC gets the Time/Date from the keyboard clock AND installs it into RAM just like the TIMESAVE.PRG did! With the WATCH.ACC on your disk there is no need for the TIMESAVE.PRG. (Booting the computer WITHOUT the TIMESAVE.PRG, or a desk accessory like WATCH.ACC, results in the RAM location having the default Time/Date that is in the TOS ROMS!)

The TIME-SAVER's batteries are charged ONLY while the computer is turned on. When fully charged they are supposed to back-up the clock for 7 days! I haven't gone that long yet! (7 days without a computer fix!?!?!). I HAVE gone 3 days, and the TIME-SAVER came thru like a champ! It appears that even a casual use of 1 hour, or so, a day is all that is needed to keep the batteries charged.

I am very pleased with the TIME-SAVER from UNALAB. The circuit board is of the HIGHEST quality, the instructions are VERY complete and easy to follow, and the product works as it is supposed to. The TIME-SAVER will work in both the 520ST and the 1040ST and is available at your local ATARI dealer. I paid \$49.99 for mine and feel it is worth every penny!

EDITOR'S NOTES

Just want to let you all know what is going on with regards to SDACE. If YOU want a say in SDACE, then be at the September meeting. The Board has worked out a plan to keep SDACE intact. How? Well read on.

It will be proposed that the 8-bit and ST users remain under the umbrella of SDACE. There will be one president, two vice-presidents (one from each group), one treasurer, one secretary and two membership chairpersons. There will also be two separate programs, held on different nights. We will have at least one general meeting per year and monthly Board meetings. Concurrent with the above, there will be two sysops, one for each group and an editor and co-editor, also one from each group.

I think one of the most important reasons to keep both groups under one name is that the numbers of SDACE members will be a positive factor in obtaining support and recognition from Atari and other companies. So, please... Show up and let us know what you think. Hope to see you all at the September meeting.

THIS MODIFICATION REQUIRES SOME SOLDERING AND ELECTRONIC SKILLS. ACCESS TO UN-MODIFIED SYSTEM COMPONENTS (FOR TESTING), A COPY OF THE 800XL (OR 130XE) OS ROM, AN ICD MODIFIED 1050 AND AN EPROM BURNER ARE NECESSARY. AS IT EXISTS TODAY, THE MODIFICATION WILL NOT RUN ON AN ICD DRIVE, 810 DRIVE OR 400/800 COMPUTERS. PRODUCTION OF 800XL/130XE MODIFIED SYSTEMS WILL REQUIRE THAT A DIFFERENT METHOD BE DEvised TO SWITCH OPERATING SYSTEMS (NEWELL RAMROD, ETC.)

Files required from Compuserve:

- * P1050A 1050 ROM overlay
- * P1050B 800XL low address overlay
- * P1050C 800XL high address overlay
- * P1050D Custom format program - Basic
- * P1050E 1050 schematic diagram
- * P1050F 1200XL schematic diagram

Parts required:

- * 2ea. #276-158 Radio Shack circuit board. This size will fit within the covers of a 1050 and a 1200XL that have NO shielding. It will provide enough area to permit the addition of features that have not yet been finalized (two more 16pin ICs).
- * 2ea. 6520 PIO ICs. I would suggest that you pre-test these chips in your 1200XL and then carefully solder them into your circuit boards instead of using sockets.
- * 1ea. 74HC02 4x2 NOR IC. This is necessary in the 1050 to correct an omission in the addressing decoder.
- * 1set 25 or 50 conductor flat cable and connectors. I used 25 conductor flat cable for my unit and found there to be quite a bit of cross-talk (signals leaking from one wire to the other). You have 21 active lines in the interface - if you want to use long (5 ft. and up) lengths, I would use 50 conductors and connect every other wire to ground.
- * 5ea. 1/4 watt 2200ohm resistors
- * 3ea. 27128 EPROM You have to have access to an EPROM burner to make this thing work....
- * 3ea. 28 pin IC sockets. The socket for the EPROM in the 1050 has to be very low profile, since the board will plug into U10 and sit underneath the drive mechanism where the room is just adequate.
- * 1ea. SPST miniature switch. Two switches, if you do not want to use the TV switch on your 1200XL to change operating systems.
- * 2ea. DIP headers. 1-24pin, 1-40pin. These will allow you to plug your new board into the socket on the Atari circuit board. I have also used flat cables with headers already mounted on them that allow the board to be probed on both sides during operation. (Keep them SHORT! -- like 6 to 10 inches).

1050 INSTALLATION:

=====

Space for I/O connector			
	yyyy	zzzz	qq
	yyyy	zzzz	qq
xxxx	yyyy	zzzz	qq
xxxx	yyyy	zzzz	
xxxx	yyyy	zzzz	
xxxx	yyyy	zzzz	
xxxx	ww	zzzz	qq
	ww	zzzz	qq
	ww	zzzz	qq

TOP VIEW

x-header to U10 socket

y-27128 EPROM

w-74HC02 NOR gate

z-6520 PIO

q-future expansion

U10 U9 U8 U7
(ICs on Atari 1050 board
below added board)

SIDE VIEW

drive mechanism			
=====			
	wwyy	zzzz	qq
<--new board			
T	T<-DIP header		
U10	U9	U8	U7
<--1050 board			

This is one method of layout for the board. Wire point-to-point with 30 gauge wire-wrap wire according to the schematic P1050E. A trace must be cut on the bottom of the Atari board that runs from the top of JP4 to pin 5 of U12. The easiest (safest) way to do this is to scrape the foil away near JP4 with a razor blade. Don't forget the five resistors and the five wires that solder to the foil side of the Atari board (marked with an * on the schematic). Mount the switch on a clear area of the 1050 case or, better yet, leave it hanging outside the case on it's wiring until I get the software OS switch working... then you won't need the switch.

Remove the drive unit and install the new board. Using an Eprom burner, read the U10 code from the Atari ROM into memory starting at \$5000. ** the Atari ROM should be at level K ** Burn this code into location \$0000-\$0FFF of the 27128.

Then load P1050A to overlay part of the old data and burn this into \$1000-\$1FFF. Plug in the EPROM and re-assemble your 1050.

Check that the new board does not touch the bottom of the drive motor before closing it up.... The 25(50) conductor cable goes out the rear of the drive (over the capacitors) thru the seam of the case - you can file a slight opening for the cable, if you like.

1200XL INSTALLATION:

=====

**** 800XL users: run the wire d7sel TO PIN 7 OF u2. I have not tried to fit the board inside an 800XL, but it should work once you get it hooked up.

Space for I/O connector				TOP VIEW
xxxx	yyyy	zzzz	ww	x-header to U23 socket
xxxx	yyyy	zzzz	ww	
xxxx	yyyy	zzzz	ww	
xxxx	yyyy	zzzz		y-6520 PIO from 1200XL
xxxx	yyyy	zzzz		z-6520 PIO new
xxxx	yyyy	zzzz		
xxxx	yyyy	zzzz	qq	w,q-future expansion
xxxx	yyyy	zzzz	qq	
xxxx	yyyy	zzzz	qq	

| | |
 U23 U21 U18
 (ICs on the Atari 1200XL
 below added board)

The major project on the 1200XL side is to remove (de-solder) the two 24 pin ROM sockets (U12 and U13) and replace them with 28 pin sockets. Some 1200's had 28 pin sockets installed - and all of them have 28 pin sites for their OS ROMs. Remove the jumpers W6,7,8,and 9 and install (use wire) W11, 12 and 13. Run a wire from the top (towards the monitor socket) of W6 to the bottom of L14 (to the right of the cartridge socket). Now, the RF channel selector will select which Operating System code you will use - the standard code or the modified code. Flip the switch on the drive and the 1200XL and it will function exactly like an unmodified 1050 and 1200XL (running 800XL OS).

Build the new board as shown (P1050F) and add the wire to pin 7 of U18. Run the flat cable thru the seam near the RF modulator and trim a slot to suit your needs (CUT my 1200XL!!!! Are you NUTS!!). You need a copy of the 800XL OS that has been divided in half at \$E000 (\$C000-\$DFFF and \$E000-\$FFFF) where each half will load into memory at \$4000. The low half (\$C000) should be burned into a 27128 at \$0000-\$1FFF. Then load P1050B to overlay and burn this into \$2000-\$3FFF. This EPROM is now U13. U12 is similar - load the \$E000 code and burn it into \$0000-\$1FFFF. Overlay with P1050C and burn this into \$2000-\$3FFF. This is now U12. Plug everything together - including a SIO cable to the 1050, and you are ALMOST ready.....

Now you can test the interface with a standard diskette. First, try the system using SIO. If this does not work, try another drive or 1200XL. If you don't have access to another drive or computer, what makes you think you can get through this mod? Check your wiring verrrrrrryy carefully - have a friend check it, too. Send me a message (no Email, please) and describe the color of the smoke and I'll try to help... When you get the SIO portion working, try the parallel side. One thing to watch out for while in parallel mode is that the CPU and drive are in sync - turning off the CPU during data transfer may hang the drive and force you to power-on-reset the 1050 also. Once the parallel mode is working, you need to run P1050D (load with Basic) and format some VHS disks (Very High Speed) on your ICD modified drive (no ICD drive?.... Nobody you know will lend you one? Are you the same guy that couldn't borrow another 1200XL?).

These VHS (catchy name, isn't it?) disks will read and write about 40 sectors per second. There are 26 sectors/track with an offset between sectors of 2. This means that the whole track can be read in three revolutions of the disk.... the whole disk in 20 seconds..... Do not format these VHS diskettes or you will lose this special offset. You can also opt for an offset of 3 or 4 which will allow the program more time to think between reads, but will slow down the I/O. ICD HiSpeed Skew is 6.....

IF YOU FIND ANY ERRORS, LET US KNOW ABOUT IT ON COMPUSERVE SO WE CAN SPREAD THE WORD.

Bob Woolley
75126,3446
8-11-86

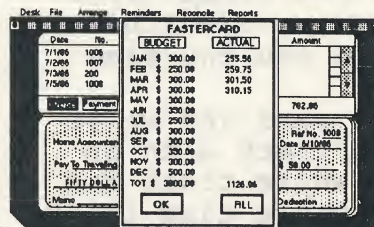
If you know any pirates, tell them that if it weren't for protection, almost all of your disks would work on this drive..... Thank them for me, too. REW

(This documentation file, reformatted for AtariWriter, and those mentioned in the article will be found both on the SDACE 8-bit BBS and in the library by the time you receive this newsletter. As I have said before, there is a lot of life left in the 8-bit machines, one of those areas is in hardware modifications. I hope some of you consider and perform this mod. ---editor)

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NEXT GENERAL MEETING:
SEPTEMBER 4TH at 6:30 PM

NORTH PARK RECREATIONAL CENTER
NORTH-EAST CORNER OF THE PARK
ADULT CENTER

SAN DIEGO, CA 92109

EXP: MAY 8

This is an important meeting. We will be discussing
SIGNIFICANT CHANGES TO THE STRUCTURE OF SDACE